

What is claimed is:

1. A method for detecting a polymerase chain reaction (PCR) product, comprising:

- (a) providing at least a pair of electrodes in a PCR solution-containing vessel;
- (b) performing PCR;
- (c) producing an electric field between the electrodes; and
- (d) measuring a change in a dielectric property in the PCR solution.

2. The method according to claim 1, wherein in step (b), the PCR is performed in the absence of an ionically-labelled primer.

3. The method according to claim 1, wherein the PCR solution-containing vessel is a PCR tube or a polymerization microchamber.

4. The method according to claim 1, wherein the dielectric property is an impedance, a dielectric loss, a dielectric constant, or an admittance.

5. The method according to claim 1, wherein in step (c), the electric field is produced using an alternating current at a frequency of 1 Hz to 100 MHz.

6. The method according to claim 1, wherein in step (c), the electric field is produced using an average AC voltage of 1 mV to 10 V.